



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/997,774	12/24/1997	SHAU-LIN F. CHEN	3940/3928	1736

7590 12/19/2001

ENGELHARD CORPORATION
101 WOOD AVENUE
P O BOX 770
ISELIN, NJ 088300770

EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 12/19/2001

21

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER OF
PATENTS AND TRADEMARKS
Washington, D.C. 20231

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 21

Application Number: 08/997,774
Filing Date: 12/24/97
Appellant(s): Chen et al

Richard A. Negin
For Appellant

EXAMINER'S ANSWER

MAILED

DEC 19 2001

GROUP 1700

This is in response to appellant's brief on appeal filed 10/02/01.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

Art Unit: 1312

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect. There is no amendment filed on 8/28/01.

The amendment after final rejection filed on 10/02/01 has been entered.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct. However, upon reconsideration, the following rejections have been withdrawn:

112 issue; and

art rejection regarding the primary references of Abe, EP '581 and WO '244.

Art Unit: 1312

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims stand or fall together.

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

WO 97/00119	Dettling	01/1997
EP 747,581	Frost et al	12/1996
EP 602,963	Abe et al	06/1994
US 5,218,817	Urata	06/1993
US 5,078,979	Dunne	01/1992
US 3,675,398	Giarrizzo	07/1972

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Art Unit: 1312

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 10-11, (17-19)/1 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 97/00119.

WO 97/00119 discloses a catalytic reactor system comprising:

a catalyst comprising a platinum group metal component dispersed on a refractory support carrier;

a hydrocarbon adsorbent deposited on a refractory carrier (page 6, lines 10-22).

The gas temperature is between 200-400 °C (page 30, line 5).

With respect to claims 2, 10-11, (18-19)/17/1, and the newly added limitation in claim 1, WO 97/00119 discloses that the catalyst and adsorbent are disposed in separated layers or same layers deposited on the cell walls of a honeycomb configuration (page 19, lines 2-10).

With respect to claim 17/1, WO 97/00119 discloses the specific amount of platinum group metal of 1-200 g/ft³ (page 12, lines 10-11, page 14, lines 4-7).

Instant claims 1-2, 10-11, (17-19)/1 structurally read on the apparatus of WO 97/00119.

Art Unit: 1312

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

5. Claims 1-2, 6, 10-11, (17-19)/1 are rejected under 35 U.S.C. § 103 as being unpatentable over EP 602,963 in view of Abe et al (5,538,697).

EP 602,963 discloses a catalytic reactor system comprising:

a catalyst comprising a platinum group metal component dispersed on a refractory support carrier;

a hydrocarbon adsorbent deposited on a refractory carrier.

EP 602,931 discloses that although the catalyst is preferably placed near the engine exhaust port, it may be placed at any other positions in the exhaust gas pipe (page 6, lines 28-29).

Art Unit: 1312

It would have been obvious to one having ordinary skill in the art to select an appropriate location for the catalyst based on the teaching of EP 602,931, such as at the specific distance downstream from the engine so as the as evidenced by Abe et al so as the gas temperature at the inlet to the monolith is between 72 and 300 °C (see at least col. 21, lines 1-8 in Abe et al) and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

With respect to claims 2, 10-11, (18-19)/17/1, and the newly added limitation in claim 1, EP 602,963 discloses that the catalyst and adsorbent are disposed in separated layers or same layers deposited on the cell walls of a honeycomb configuration (page 4, lines 18-39, page 5, lines 2-3).

With respect to claim 6, EP 602,963 discloses an additional upstream catalyst (page 6, line 8, Fig. 2).

With respect to claim 17/1, EP 602,963 discloses the specific amount of platinum group metal of 20-130 g/ft³ (page 5, line 32).

6. Claims 3-4, 8-9, 12-15, (17-19)/(3-4) are rejected under 35 U.S.C. § 103 as being unpatentable over WO 97/00119 in view of Urata (5,218,817) and Giarrizzo (3,675,398).

The apparatus of WO 97/00119 is substantially the same as that instantly claimed, but is silent as to whether the catalyst may be placed in the tail pipe or the muffler.

However, Urata and Giarrizzo show the conventionality of positioning the catalyst in the muffler and tail pipe.

Art Unit: 1312

It would have been obvious to one having ordinary skill in the art to select an appropriate location for the catalyst, such as at the muffler and tail pipe as taught by Urata and Giarrizzo in the apparatus of WO 97/00119 to achieve the purification attendant therewith and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

7. Claims 5, (17-19)/5 are rejected under 35 U.S.C. § 103 as being unpatentable over WO 97/00119 in view of Dunne (5,078,979).

The apparatus of WO 97/00119 is substantially the same as that instantly claimed, but is silent as to the specific properties of the adsorbent as claimed.

However, Dunne shows the conventionality of providing an adsorbent having specific properties as claimed.

It would have been obvious to one having ordinary skill in the art to select an appropriate adsorbent, as taught by Dunne in the apparatus of WO 97/00119, if not inherent therein, to achieve the desired benefits of adsorbing HC since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

8. Claim 6 is rejected under 35 U.S.C. § 103 as being unpatentable over WO 97/00119 in view of EP 602,963.

The apparatus of WO 97/00119 is substantially the same as that instantly claimed, but fails to disclose whether an additional, upstream catalyst may be provided.

Art Unit: 1312

However, EP 602,963 show the conventionality of providing an additional, upstream catalyst.

It would have been obvious to one having ordinary skill in the art to provide an additional, upstream catalyst in the apparatus of WO 97/00119 as taught by EP 602,963 to further purify the exhaust gas thereof.

9. Claim 7 is rejected under 35 U.S.C. § 103 as being unpatentable over either WO 97/00119 in view of Dunne (5,078,979) as applied to claim 5 above and further in view of EP 602,963.

The same comments with respect to EP 602,963 apply.

10. Claim 20/(1) are rejected under 35 U.S.C. § 103 as being unpatentable WO 97/00119 as applied to claims 1-2 above and further in view of EP 747,581.

WO 97/00119 is silent as to the specific light-off temperature of the catalyst.

However, the catalyst of WO 97/00119 is the same as that of the instant claim and therefore must have the same properties, i.e. the same light-off temperature.

In any event, EP 747,581 discloses provision of a catalyst having light-off temperature at 92 °C.

It would have been obvious to one having ordinary skill in the art to substitute the catalyst of EP 747,581 for the catalyst of WO 97/00119 for the known and expected results of obtaining result in exhaust gas purification in the absence of unexpected results, and since it has been held to be within the general skill of a worker in the art to select a known material on

Art Unit: 1312

the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

11. Claim 20/(3-4) are rejected under 35 U.S.C. § 103 as being unpatentable WO 97/00119 in view of Urata (5,218,817) and Giarrizzo (3,675,398) as applied to claims 3-4 above and further in view of EP 747,581.

The same comments with respect to EP '581 apply.

12. Claim 20/(5) are rejected under 35 U.S.C. § 103 as being unpatentable over WO 97/00119 in view of Dunne (5,078,979) as applied to claim 5 above and further in view of over EP 747,581.

The same comments with respect to EP '581 apply.

(11) Response to Argument

In several locations in the brief, Appellants urge that:

1) Appellants argue that the WO '119 reference does not disclose that a low temperature catalyst located downstream of the engine is never exposed to a temperature in excess of 550 °C.

2) Appellants argue that although WO '119 discloses that the gas inlet temperature of between 200-400 °C, the conversion of HC at 200 °C is very low during this range (Table 2) which is contrary to the use of a low temperature conversion catalyst in the instant invention which has a light-off temperature of less than 200 °C.

Art Unit: 1312

3) Appellants agree that the secondary references of Urata, Giarrizzo, Dunne, EP '963 do not disclose the temperature or other conditions to which the catalyst is exposed, e.g. location of the catalyst so as to never exposed to a temperature in excess of about 550 °C.

Such contentions are not persuasive for the following reasons:

1) Appellants' argument #1 that the WO '119 reference does not disclose that a low temperature catalyst located downstream of the engine is never exposed to a temperature in excess of 550 °C is unfounded as WO '119 does disclose that the operating temperature of the catalyst of from 150-500 °C (see, for example, Table 4). From such disclosure, the catalyst of WO '119 must be at the location so as the catalyst inlet temperature falls within the operating range.

2) With respect to argument #2, appellants admit that WO '119 discloses that the gas inlet temperature of the catalyst between 200-400 °C. However, appellants argue that the conversion of HC at 200 °C is very low during this range (Table 2) which is contrary to the use of a low temperature conversion catalyst in the instant invention which has a light-off temperature of less than 200 °C. Appellants are directed to Table 4 in which the conversions of HC at 150 °C and 200 °C are in the range from 41-92% depending on the specific catalyst. Therefore such catalyst meets the "low light-off temperature catalyst" of the instant claim.

3) With respect to argument #3, appellants argue that the secondary references of Urata, Giarrizzo, Dunne, EP '963 do not disclose the temperature or other conditions to which

the catalyst is exposed, e.g. location of the catalyst so as to never exposed to a temperature in excess of about 550 °C. Such contention is not persuasive as the primary reference, WO '119, is relied upon for such teaching.

It should be noted that, the secondary reference, Dunne, is relied upon for teaching a specific property of the adsorbent. EP '963 is relied upon for teaching providing a second upstream catalyst. Urata and Giarrizzo are only relied upon for teaching the specific location, e.g. tailpipe or muffler position which is further away from the engine. Therefore, the catalyst located at these locations will never be exposed to high temperature.

(12) Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

HT
December 17, 2001

Hien Tran
HIEN TRAN
PRIMARY EXAMINER
GROUP 1700

Gregory Mills
GREGORY MILLS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700